January-09-13 11:56:05 AM

Revision ID:	D3016-041 Seat Frame Assembly		Α	ccept	*N900	<b>040</b> ′	100	)* S	etup Start	Į V.	S1*
Start Date: Required Date:	1/14/13 Start Qty		*1* *1*		Cust Item I Customer:	D:				ı u	. 12
Reference: Approvals:	Process Plan: ME		pate: 13 -01 - 10	Tooling: SPC (Y/N):		ite:	and and the second second	R	un Start	1/1	R1*
Sequence ID/ Work Center II	Operation	 1		Set Up/ Run Hours	Tool ID	Tool#	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr										
D3016	RevA / DEO A										
*100 *100* Large Fab Large Fab	Large Fab	Memo 1-Cut all tubes as 2-Deburr 3-Assemble tube DT8597 4-Transfer drill h	Batch: MIY875 s per Dwg D3016 s, fittings and weld as per loles from D3017-041 at lockets and gusset per dwg	nd D3021-041 in seat fi					_R	/3-2-	<i>38</i>
*110 *110* QC Quality Control		ct visual per QS10	04- Fusion Welds	0.00					13-0	) <sup>2</sup> -04	<b>DA</b> S <b>09</b>

								•				DQA:	Dat	:e:	
NCR:	Yes	/ No			. •	WORK ORDER NON-C	100	NFORM	/ANCE / UP	DATE					
											(	QA Closed:	Dat	:e:	
Work Orde	er.				-	DISPOSITION				AGAINST D	ΕP	PARTMENT	PROCESS		
Part I	No.					Rework Scrap Use-as-is Work Order Update		Therm	Skid-tube  Machining  noforming  Large Fab	Crosstube Small Fab Finishing Composite			Water Jet d. Eng. Coor. e/Packaging Supplier		Engineering Quality Other
Root	I				Descri	ption of work order update	I	Initial	Act	tion		Sign &			
Cause		Date	Step	Qty		or Non-conformance	Ch	nief Eng	Desc	ription	$\downarrow$	Date	Verification	1	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved															
							AUL	LT CATE	GORY						
Landi		Gear Bending Centre No Cracks Crushed/ Cuffs Heat Trea	Crimped.	ntric to (	o/s	General Bend BOM/Route Broken/Damaged Burrs Contamination Countersink		4	ori Incomplete ions Incomplete/ nance	Unclear		Ovalized Over/Under Part Incorred Part Lost/Mi Part Moved Positioned V	ct ssing		Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled
87	-	Inspection		Tube	.	Cut Too Short	$\vdash$	Misread				Power Loss/		Г	Other
3 4	${} =$	Ripples in				Drill Holes		Offset		_	_		l	_	•

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

Finish

Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

January-09-13 11:56:05 AM

Revision ID:	D3016-041 Seat Frame A			Accept	*N900	<b>040</b>	100	)*	Setup	Start Stop	171.	S1* S2*
tart Date: Required Date:	1/14/13	Start Qty: 1.00 Req'd Qty: 1.00	**	=	Cust Item I Customer:	D:		·				
Approvals:		an:	Date:			ate:			Run	Start Stop		R1* R2*
Sequence ID/ Work Center II	<b>D</b>	Operation Description		Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accep Qty	t Reje Qty		Reject Number	Insp. Stamp
<sup>20</sup> *120*		QC5- Inspect part comp	leteness to step on						13-0	30	4	( DAS ( 09 ( 88
QC Quality Control		Мето		0.00								<b>0-</b> 85
30 *4 O O *		Grey Sandtex(Ref:4.3.5	.6) per 0.54905 473 1 ) 9 6 6	0.00				,	4	<u>D</u>	33	
*120* Powdercoat		START TII OVEN TEI	t screws on Exting ME: A TURE: ME: A TURE: ME: A TURE:	0-0					- P_ (		<u>6</u> 7	~~
<sup>140</sup> *1 <b>⊿∩</b> *		QC3- Inspect Part Finis	h	0.00				//				1/3
QC Quality Control		Мето		0.00				1/\				75.51

Root Description of work order update Initial Action Sign &	Date:
Work Order:  Part No.  NCR No.  Rework Scrap Use-as-is Use-as-is Work Order Update Large Fab Composite Supprocession Date Step Qty Or Non-conformance Chief Eng Description  Doc/Data Equip/Tooling Operator Material Setup Other Under Un	
Part No.    Scrap   Use-as-is   Use-as-is   Work Order Update   Large Fab   Composite   Suppose	
Cause       Date       Step       Qty       or Non-conformance       Chief Eng       Description       Date       Verification         Doc/Data Equip/Tooling Operator       Adderial       Adderia	Coor. Quality
Doc/Data	
Equip/Tooling Operator Material Other Other	ication QC Inspector
Supplier Training Unapproved  FAULT CATEGORY	
Landing Gear General	
Bending Bend Grain Ovalized  Centre Not Concentric to O/S BOM/Route Hardware Over/Under tolerance  Cracks Broken/Damaged Inspection Incomplete Part Incorrect  Crushed/Crimped. Burrs Instructions Incomplete/Unclear Part Lost/Missing  Cuffs Contamination Maintenance Part Moved  Heat Treat Countersink Mislabeled Positioned Wrong  Inspection Strip in Tube Cut Too Short Misread Power Loss/Surge  Ripples in Bend Drill Holes Offset  Torque Waves in Extrusion Drawing Out of Calibration	Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled Other

Out of Sequence

Outside Dimensions

DQA:

Date:

Turning Sequence

Wave/Twist in Tube

Finish

Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

January-09-13	11:56:05 AM		·							<u></u>	
Item ID: Revision ID:	D3016-041			Accept	*N900	040	100	* S	etup Start	*NS	31*
Item Name:	Seat Frame As	ssembly							Stop	*N.	32*
Start Date:	1/14/13	Start Qty: 1.00	*1*		Cust Item I	D:					
Required Date:	1/25/13	<b>Req'd Qty:</b> 1.00	*1*		Customer:						
Reference:								_	Q	٠.	•
Approvals:	Process Pla	ın:	Date:	Tooling:	Da	ate:		R	un Start	. "IN F	₹1*
	QC:		Date:	_ SPC (Y/N):	Da	ate:			Stop	*NF	<b>R</b> 2*
Sequence ID/ Work Center II	D	Operation Description Identify as per dwg & St	and Lagration (2.4	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
*150* Packaging Packaging		Memo	ock Location. D 21	0.00				K			J) 13 /03 <sub>1</sub>
*160		QC21- Final Inspection	- Work Order Release	0.00					13	13/5	20
QC QC Quality Control		Memo		0.00						1	-1-6-1

NCR:	⁄es	/ No				WORK ORDER NON-C	100	<b>NFORM</b>	MANCE / UPI	DATE					
					·						QA	Closed:	Da	te:	
Work Orde	er:					DISPOSITION				AGAINST D	EPAR	TMENT/	PROCESS		
Part N	No.					Rework Scrap Use-as-is Work Order Update		f Therm	Skid-tube  Machining  noforming  Large Fab	Crosstube Small Fab Finishing Composite			Water Jet d. Eng. Coor. e/Packaging Supplier		Engineering Quality Other
Root					Descri	ption of work order update	- 1	Initial	Act	ion	Si	ign &			
Cause		Date	Step	Qty	(	or Non-conformance	Ch	nief Eng	Descr	ription	]	Date	Verificatio	n	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved															,
						· · · · · · · · · · · · · · · · · · ·	AUL	LT CATE	GCIRY						
Landi		Bending Centre No Cracks Crushed/O Cuffs Heat Trea Inspection	Crimped. It n Strip in		o/s	General Bend BOM/Route Broken/Damaged Burrs Contamination Countersink Cut Too Short		Instruct Mainte Mislabe Misread	ion Incomplete ioris Incomplete/l enance eled	Unclear	Ove Part Part Part Pos	alized er/Under t Incorred t Lost/Mi t Moved sitioned V wer Loss/	ssing Vrong		Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled Other
	1 1	Ripples in	Bend			Drill Holes	ì	Offset							

Out of Cal bration
Out of Sequence

Outside Dimensions

DQA:

Date:

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

Finish

Folio

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# **Picklist Print**

January-09-13 11:56:05 AM

Work Order ID:

95382

Parent Item:

D3016-041

Parent Item Name:

Seat Frame Assembly

**Start Date: 1/14/13** 

Required Date: 1/25/13

Page 1

Start Otv: 1.00

Required Oty: 1.00

IPP A01.09.19New issueECIPP RevB: as per revB DD verified by:JLM Comments: Oty per Kit Total Status Last Unit of Oty on Date Component Item ID/ Replacement Otv Mfg/ Bin Primary Route Item Name Location Measure Hand Issued Issued Item ID Purch Item Location Sea ID Otv M4130NT0.750W.049 No 100 27.5218 4.5263158 Purchased 4130 RD Tube .750 x.049W Loc Otv Loc Code M 124293 X 4.52 27.5217893 123339 27.5217893 100 f 43.6960 4.5263158 M4130NT0.500W.049 Purchased No 4130 RD Tube .500 x.049W Location Loc Oty Loc Code M 124293 x 4.52 MAT032 43.696 121025 1.82 123339 41.876 M4130NT1.000W.120 100 0.0000 1.5 Purchased 4130 RD Tube 1.00 x .120wall D3016-17 100 Each 16.0000 Manufactured Gusset Loc Code Location Loc Qty WA002 16 70909 4 92391 12 100 D3016-13 Each 13.0000 Manufactured No Bracket Location Loc Qty Loc Code WA002 13 6 92380 D3016-15 100 Each 5.0000 Manufactured Gusset Loc Qty Loc Code Location WA002 5

											DQA:	Date:	
NCR:	Yes	/ No				WORK ORDER NON-C	100	NFOR	MANCE / UP	DATE			
	•										QA Closed:	Date:	
Work Orde	er:					DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	
Part N	-					Rework Scrap		Machining Sma		Crosstube Small Fab	Water Jet Prod. Eng. Coor.		Engineering Quality
NCR I	۷o. <sub>-</sub>				····	Use-as-is Work Order Update		Thern	noforming Large Fab	Finishing Composite	Rec/Stol	re/Packaging Supplier	Other
Root					Descri	ption of work order update	П	nitial	Ac	tion	Sign &		
Cause		Date	Step	Qty		or Non-conformance	Ch	ief Eng	Desc	ription	Date	Verification	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved						. *						`	
			•		•	F	AUI	T CATE	GORY		-		
Landi	ng G	iear				General		_			_		
	$\vdash$	Bending Centre No	nt Conce	ntric to	0/5	Bend BOM/Route		Grain Hardwa	re		Ovalized Over/Under	tolerance	Pressure/Forced Temperature/Cure

Inspection Incomplete

Maintenance

Out of Calibration

Out of Sequence

Outside Dimensions

Mislabeled

Misread

Offset

Instructions Incomplete/Unclear

Part Incorrect

Part Moved

Part Lost/Missing

Positioned Wrong

Power Loss/Surge

Weld

Other

Wrong Stock Pulled

Broken/Damaged

Contamination

Countersink

Cut Too Short

Drill Holes

Drawing

Finish

Folio

Burrs

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Cracks

Cuffs

Heat Treat

Crushed/Crimped

Inspection Strip in Tube

Torque Waves in Extrusion

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Page 2

January-09-13 11:56:05 AM

Work Order ID:

95382

Parent Item:

D3016-041

Parent Item Name:

Seat Frame Assembly

**Start Date: 1/14/13** 

Required Date: 1/25/13

Start Qty: 1.00

Required Qty: 1.00

D3020-1 Fitting Manufactured No

100

Each .

11.0000

A 13-2-4

Location

Loc Qty

11

11

Loc Code

WA001 94656

86801 x 4

NCR:	Yes	/ No				WORK ORDER NON-C	Or.	NFORN	MANCE / UPI	DATE				
											QA Close	d: Da	ite:	
Work Ord	er:	•			,	DISPOSITION				AGAINST DE	PARTMEN	IT/PROCESS		
Part I	No.					Rework Scrap Use-as-is Work Order Update		N Therm	Skid-tube  Machining  noforming  Large Fab	Crosstube Small Fab Finishing Composite	-1	Water Jet rod. Eng. Coor. tore/Packaging Supplier		Engineering Quality Other
Root					Descri	ption of work order update	ı	nitial	Act	ion	Sign &			
Cause		Date	Step	Qty		or Non-conformance	Ch	ief Eng	Descr	ription	Date	Verificatio	'n	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved												·		
							AUL	T CATE	<u>3C'RY</u>					
Landi	ng G	Bending Centre No Cracks Crushed/ Cuffs Heat Trea Inspectio Ripples in	Crimped at n Strip in n Bend	Tube		General Bend BOM/Route Broken/Damaged Burrs Contamination Countersink Cut Too Short Drill Holes		Instructi Mainte Mislabe Misread Offset	on Incomplete ioris Incomplete/Unance iled	Unclear	Ovalized Over/Unc Part Incor Part Lost/ Part Mov Positione Power Lo	Missing ed d Wrong		Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled Other
1	1	Torque V	vaves in t	extrusio	ก [	Drawing	1	Jour of C	alibration					

Out of Sequence

Outside Dimensions

Date:

DQA:

Turning Sequence

Wave/Twist in Tube

Finish Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G





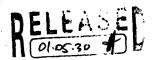
	DESIGN	co	DRAWN BY	DART AEROSPACE HAWKESBURY, ONTARIO, CANA	
i	CHECK	ED ,	APPROVED	DRAWING NO.	REV. A
		4	<del> </del>	D3016	SHEET 1 OF 3
	DATE		_1	TITLE	SCALE
ļ	01.0	5.18		SEAT FRAME ASSEMBLY	NTS
	Α		01.05.18	NEW ISSUE	

QTY	PART NUMBER	DESCRIPTION	MATERIAL
Х	D3016-041	SEAT FRAME ASSEMBLY	N/A
1	D3016-1	TUBE	AISI 4130N TUBE, Ø0.75 DIA x 0.049 WALL (M4130N-T0750W049)
2	D3016-3	TUBE	AISI 4130N TUBE, Ø0.75 DIA x 0.049 WALL (M4130N-T0750W049)
1	D3016-5	TUBE	AISI 4130N TUBE, Ø0.50 DIA x 0.049 WALL (M4130N-T0500W049)
2	D3016-7	TUBE	AISI 4130N TUBE, Ø0.50 DIA x 0.049 WALL (№4130N-T0500W049)
1	D3016-9	SADDLE	AISI 4130N TUBE, Ø1.00 DIA x 0.120 WALL (M4130N-T1000W120)
1	D3016-11	SADDLE	AISI 4130N TUBE, Ø1.00 DIA x 0.120 WALL (M4130N-T1000W120)
1	D3016-13	BRACKET	AISI 4130N SHEET, 18 GAUGE (M4130N-S049)
1	D3016-15	GUSSET	AISI 4130N SHEET, 18 GAUGE (M4130N-S049)
1	D3016-17	GUSSET	AISI 4130N SHEET, 18 GAUGE (M4130N-S049)
. 2	D3020-1	FITTING	N/A

## **NOTES**

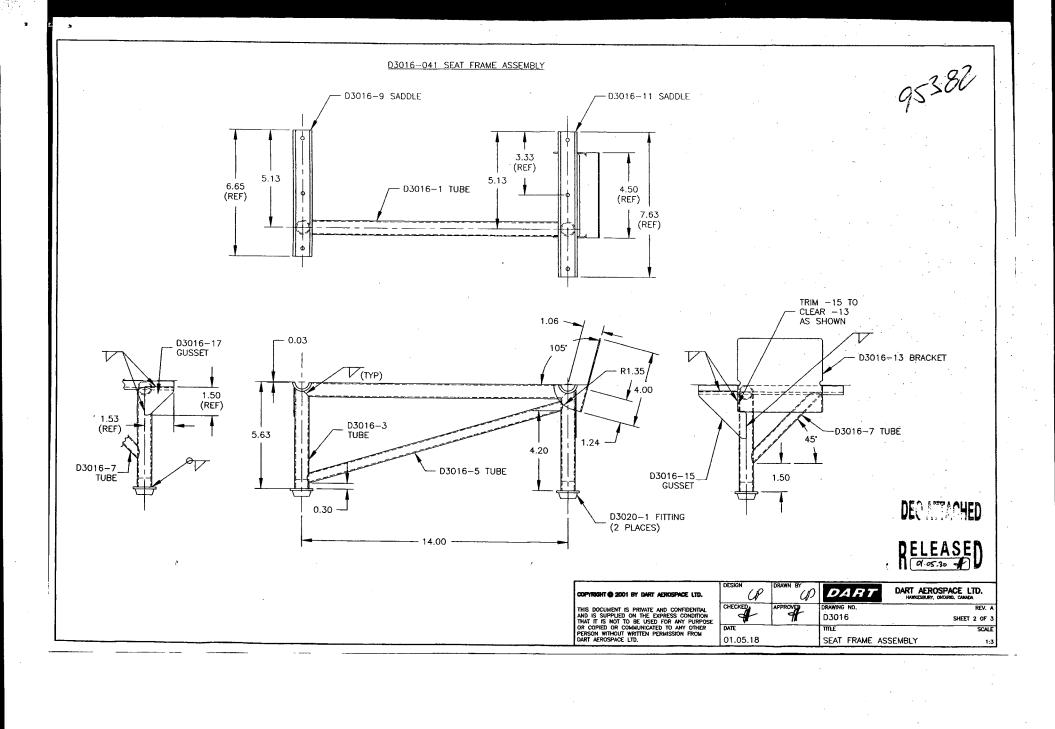
- 1) WELD PER DART QSI 004
- ON SHEET METAL PARTS, BREAK ALL UNMARKED CORNERS 0.020-0.040
- FINISH: POWDER COAT GREY SANDTEX (REF. 4.3.5.6) PER DART QSI 005 4.3
- ALL DIMENSIONS ARE IN INCHES
- TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

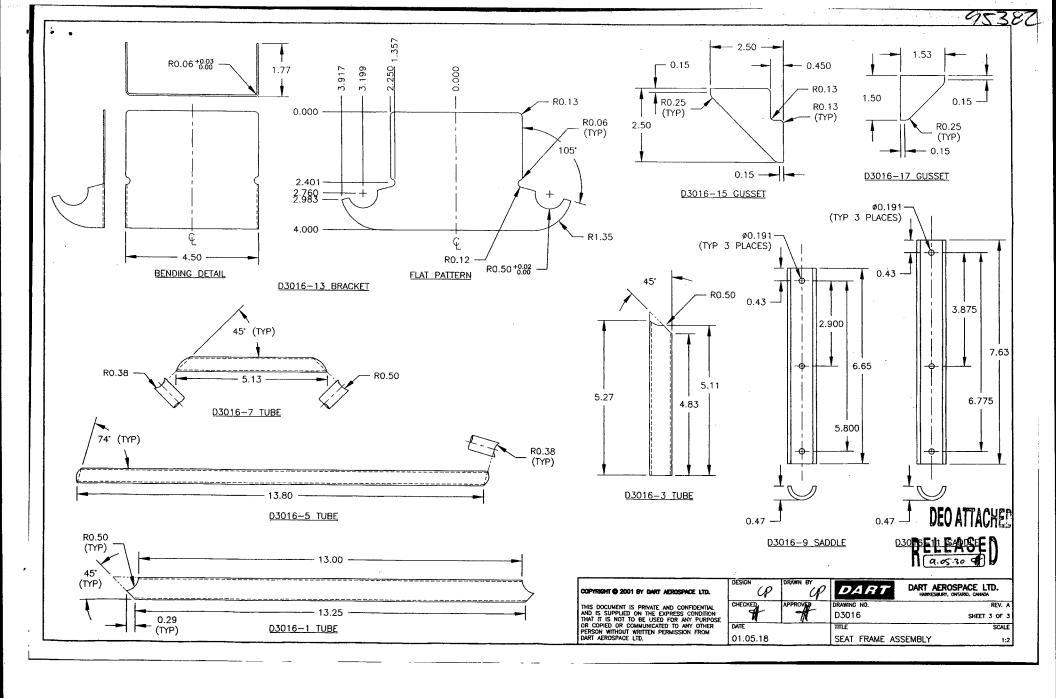
DEO ATTACHED



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DRAWING NO.	TITLE			REV. A	DART AE	ROSPACE LTD	D.E.O. NO.		SHEET NO.	SCALE
D3016	SEAT FRAM	IE ASSEMI	3LY			ERING ORDER	D3016-A-	1	SHEET 1 OF 1	NTS
DRAWN		CHECKED	4	7	MFG. APPR.	R	APPROVED	M	DE APPR.	
DATE 10	.01.29	DATE	10:	01.75	DATE	10,01.29	DATE IC	1.01.29	DATE 10.01-29	

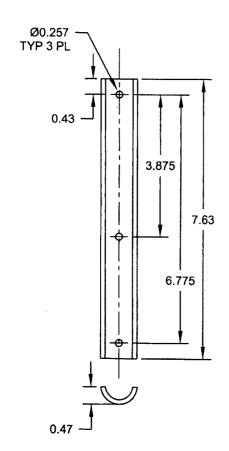
#### PURPOSE:

TO REVISE D3016-11 SADDLE'S HOLE SIZES

## CHANGE:

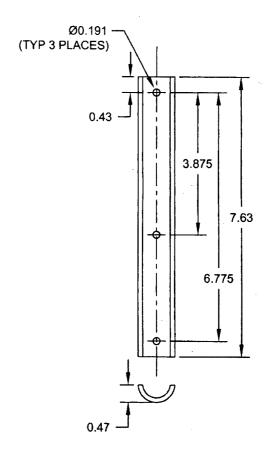
DETAIL D3016-11 SADDLE (SHEET 3): Ø0.257 TYP 3 PL WAS Ø0.191 (TYP 3 PLACES) AS SHOWN:

IS:



**D3016-11 SADDLE** 

WAS:



## **D3016-11 SADDLE**

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